

Better Leadership Via a Seven Factor Model on Net Profit – A Case of Facebook in USA

Dr. Nguyen Thanh Hai¹; Nguyen Thuy Duong²; Le Thu Ha^{3*}

¹Thuongmai University, Hanoi, Vietnam.

¹nguyenthanhhai@tmu.edu.vn

²Master, Thuongmai University, Hanoi, Vietnam.

²Duong.nt@tmu.edu.vn

^{3*}PhD, Faculty of Basic Science, Thai Nguyen University of Economics and Business Administration, Vietnam.

^{3*}lethuha.cva@gmail.com

Abstract

The story of Facebook and Mark is becoming successful lesson for many businesses which shows their ambitious plan and ideas and working hard on it.

We recognized leadership role of Facebook lying in online social media industry and network with a social site for many people to connect around the world.

This paper will use OLS method to estimate effects of Facebook good management, via both micro and macro factors on net profit. Authors will analyze effects of Seven (7) micro and macroeconomic factors such as: stock price, net profit, lending rate, inflation, GDP growth, S&P500, etc. on net profit of an online media company, Facebook in USA during 2014-2019 and make further analysis. Findings show that if inflation, GDP (increasing too much) there is significant effect on reducing Facebook net profit and the next factor is decreasing SP500.

Key-words: Facebook Net Profit, Leadership, Net Profit, GDP Growth, Inflationary, Market Interest Rate.

JEL: M21, N1

1. Introduction

It is undeniable that millions of people in the world use Facebook as an effective online social media channel to link with each other and this created success for Facebook.

Its strong features are still friendly for social network for friends and businesses, with attractive constructed website and very good interface.

Facebook not only provide a huge information and data for people, but it also help us to share photos, videos, status, feelings, location, etc.

Our paper organized with introduction, research issues, literature review and method, results, discussion and conclusion.

2. Content

2.1. Research Questions

Question 1: What are effects of 7 macro economic factors on Facebook net profit?

2.2. Literature Review

Table 1- Summary of Relating Studies

Authors	Year	Results, contents
Sadia and Noreen	2012	Banking index much affected by exchange rate and interest rate (short term)
Winhua and Meiling	2014	Bank income much affected by macro effects
Krishna	2015	Between stock price and macro factors there are causal relation.
Kulathunga	2015	In Sri Lanka, stock market curtailed bu increasing deposit rates
Ahmad and Ramzan	2016	Investors might consider macro effects in portfolio of stock investment

Last but not least, Quy and Loi (2016) stated that between real estate stock price and factors (inflation rate, GDP growth rate, and exchange rate) there is significant impact. Also, there is no relation between real estate stock price and treasury bond 10-year.

3. Methodology and Data

This research paper establishes correlation among econ factors and uses OLS regression model. Facebook net profit is a function with 7 variables presented below.

4. Main Results

4.1. General Data Analysis

First of all, We see that, between Facebook net profit (Y) and CPI, cost, sale there is positive correlation:

Chart 1 – Net Profit (Y) vs. Cost (C.o)

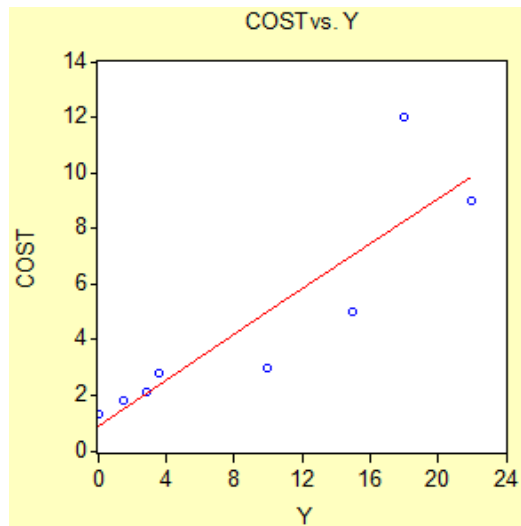


Chart 2 – Facebook Net Profit (Y) vs. Inflation (CPI)

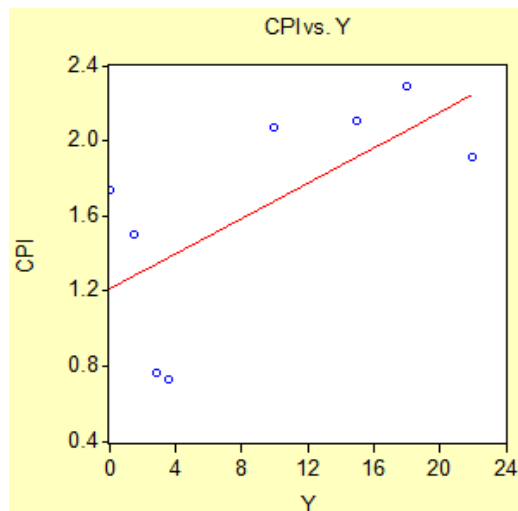


Chart 3 – Y vs. GDP Growth

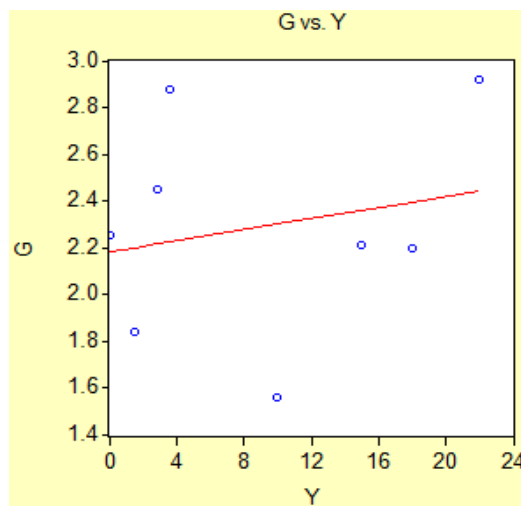


Chart 4 – Y vs. Sale

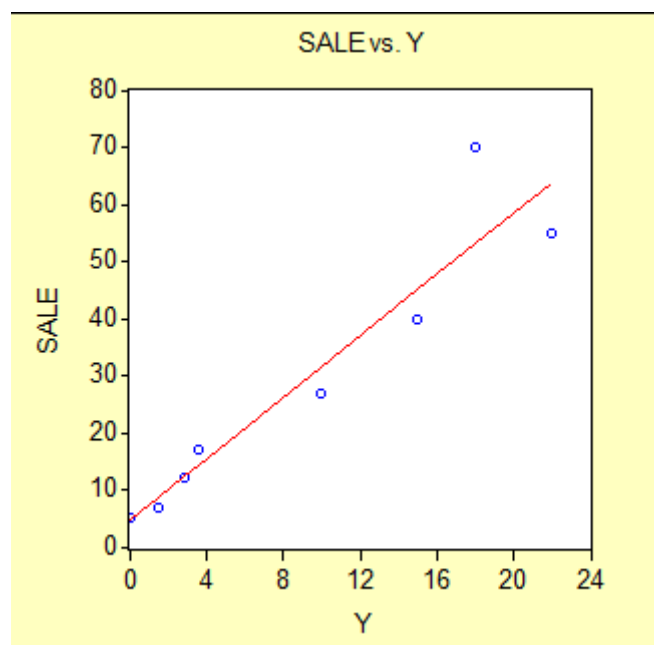


Table 2 – Statistics for Macro and Micro Economic Factors

Unit: %

	Net profit	Net sales	Cost	FACEBOOK stock price	Inflation US	Lending rate US	GDP growth - US	S&P500
Mean	29.13	9.13	4.63	111.48	1.76	0.04	2.32	2354.99
Median	22	6.8	2.9	109.855	1.825	0.0325	2.25	2331.12
Maximum	70	22	12	205.25	2.96	0.0525	2.92	2752.06
Minimum	5	0.05	1.3	26.62	0.73	0.0325	1.56	2043.94
Standard dev.	23.829	8.363	3.874	59.773	0.680	0.008	0.445	294.931

Table 3 – Correlation Matrix

Correlation Matrix							
	Y	SALE	SP500	R	G	CPI	COST
Y	1.000000	0.945638	0.793860	0.913493	0.210355	0.654460	0.882224
SALE	0.945638	1.000000	0.808731	0.972313	0.184248	0.643181	0.975349
SP500	0.793860	0.808731	1.000000	0.651340	-0.041848	0.547684	0.676070
R	0.913493	0.972313	0.651340	1.000000	0.232398	0.645348	0.989162
G	0.210355	0.184248	-0.041848	0.232398	1.000000	-0.437255	0.250865
CPI	0.654460	0.643181	0.547684	0.645348	-0.437255	1.000000	0.576098
COST	0.882224	0.975349	0.676070	0.989162	0.250865	0.576098	1.000000

Looking at tables of correlation and covariance matrix, we find if G and CPI go up, Y (net profit of Facebook) will go up. In addition, Between R and Y, correlation is higher than that between Y and G or CPI.

Also table 2 shows that std. deviation is highest in case of stock price and SP500.

Table 4 – Matrix of Covariance

Covariance Matrix							
	Y	SALE	SP500	R	G	CPI	COST
Y	61.19809	164.8961	1653.025	0.054326	0.717789	2.881039	25.00984
SALE	164.8961	496.8594	4798.300	0.164762	1.791406	8.067656	78.78438
SP500	1653.025	4798.300	70848.89	1.317983	-4.858675	82.03403	652.1111
R	0.054326	0.164762	1.317983	5.78E-05	0.000771	0.002761	0.027250
G	0.717789	1.791406	-4.858675	0.000771	0.190261	-0.107327	0.396531
CPI	2.881039	8.067656	82.03403	0.002761	-0.107327	0.316661	1.174781
COST	25.00984	78.78438	652.1111	0.027250	0.396531	1.174781	13.13188

4.2. Regression Model and Main Findings

4.2.1 Case 1: Regression model with single variable: cost (c.o)

OLS give results:

Dependent Variable: Y
Method: Least Squares
Date: 02/26/20 Time: 21:55
Sample: 1 8
Included observations: 8

Variable	Coefficient	Std. Error	t-Statistic	Prob.
COST	1.904514	0.414949	4.589756	0.0037
C	0.322871	2.438068	0.132429	0.8990
R-squared	0.778319	Mean dependent var	9.131250	
Adjusted R-squared	0.741372	S.D. dependent var	8.363054	
S.E. of regression	4.253074	Akaike info criterion	5.945479	
Sum squared resid	108.5318	Schwarz criterion	5.965340	
Log likelihood	-21.78192	F-statistic	21.06586	
Durbin-Watson stat	1.232064	Prob(F-statistic)	0.003732	

So, $Y = 1.9 * \text{cost} + 0.32$, $R^2 = 0.77$ SER = 4.25

Between net profit and Cost: coefficient 1.9, cost goes up, Facebook net profit will go up.

4.2.2 Case 2 - OLS model with 2 to 3 variables:

2 factors: cost, CPI	Coefficient	1.6 3.04
	Std. Error	0.5 3.3
3 factors: cost, CPI, G	Coefficient	1.1 6.3 4.8
	Std. Error	0.7 4.9 5.4

As we see from the above table, in case of 3 variables, Facebook net profit is positively affected by cost, CPI, G.

4.2.3. Case 3 - regression model with 4-6 macro and micro variables: adding some other indicators into the above model:

OLS give results:

Table 5- OLS Regression

	4 variables	5 variables	6 variables	6 variables
G	4.1	1.6	-0.4	-0.9
CPI	2.9	-0.3	-2.7	-5.2
Cost	-2.01	-3.5	-6.4	-5.8
R				3656
Sale	0.58	1.07	1.7	
Stock price		-0.07	-0.04	-0.02
SP500			-0.02	0.01

Therefore, we see impacts of 6 macro factors, with the new variables: the above equation shows that between G, CPI, Cost, Stock price and Facebook net profit (Y) there is negative correlation, whereas it has positive correlation with lending rate, and SP500. We also recognize that R and cost, then CPI have the highest impact on Facebook net profit, while stock price and SP500 just has a slightly impact on net profit.

5. Discussion and Further Researches

We find that management of Facebook can pay more attention to R, cost and CPI because these factors have significant impact on net profit.

Beside, they need to manage the firm better, as refer in following international corporate governance standards below:

Beside, for better management and corporate governance at banks, we refer to below table:

Table 6 - Corporate Governance Standards - Limited America

Subjects or parties	Main quality factors	Sub quality factors
Audit committee	Formed by independent members of Board; At least one with auditing knowledge;	Overseeing financial report processes and audits;
CEO and The Chair	CEO ensure stakeholders with information of their interests; Chair may served as BD member; assessment of BD's performance; Propose annual calendar of meeting;	CEO connects b.t BD and the co.;
Board of Directors or Management Board	MGT with respect to business, risks and people;	Ensure co.'s sustainability;
Internal control	Policies and limits of authority by Board; Developed by MGT;	Compliance with operating and financial processes;
Internal audit	proactively act on improved controls, standards;	Examined by AC;
External audit	Selected and evaluated by Board; review and assess MGT and IA practices; Assessed by BD and AC;	May report directly to shareholders

(Source: Dinh Tran Ngoc Huy, Article "The Summarized Evaluation of The US and Latin America Corporate Governance Standards After Financial Crisis").

6. Conclusion and Policy Suggestion

From macro viewpoints:

We would suggest CPI need to be controlled properly according to development stage.

Facebook Leadership Plans Suggestion

In addition to, looking at Durbin-Watson Statistic in the above equation (4.2.3), we recognize that Durbin-Watson Stat of around 3.2, values from 2 to 4 indicating negative autocorrelation, i.e., there is negative autocorrelation detected in the sample.

Also looking at the above equation (4.2.3), we note that Facebook highly and positively impacted by lending rate, with very high coefficient (3656); hence, its board of management need to negotiate with proper banks and lenders to stabilize lending rates as it may cause risk.

Facebook itself also pay attention to stages in which CPI increase because it has negative impact on net profit.

Managing Facebook net profit depends on many factors, so it needs to increase and control cost and need a good stock price management. Last but not least, Facebook need to use a better stock price management. Stock price needs to fluctuate more stable. Hence, Facebook board of

management needs to perform action business plans that do not affect much on stock price and its volatility.

Besides, Facebook also consider upgrade regularly.

Acknowledgements

Thank you very much for my family, friends and Mr. Dinh Tran Ngoc Huy (dtnhuy2010@gmail.com) in assisting convenient conditions for my research paper.

References

- Ahmad, N., & Ramzan, M. (2016). Stock Market Volatility and Macroeconomic Factor Volatility. *International Journal of Research in Business Studies and Management*, 3(7), 37-44.
- Arshad, Z., Ali, R.A., Yousaf, S., & Jamil, S. (2015). Determinants of Share Prices of listed Commercial Banks in Pakistan. *IOSR Journal of Economics and Finance*, 6(2), 56-64.
- Ayub, A., & Masih, M. (2013). *Interest Rate, Exchange Rate, and Stock Prices of Islamic Banks: A Panel Data Analysis*, MPRA Paper No. 58871.
- Cherif, R., & Hasanov, F. (2012). *Public Debt Dynamics: The Effects of Austerity, Inflation, and Growth Shocks*, IMF Working paper WP/12/230.
- Dat, P.M., Mau, N.D., Loan, B.T.T., & Huy, D.T.N. (2020). Comparative China Corporate Governance standards after Financial Crisis, Corporate Scandals and Manipulation. *Journal of Security and Sustainability Issues*, 9(3).
- Hac, L.D., Huy, D.T.N., Thach, N.N., Chuyen, B.M., Nhung, P.T.H., Thang, T.D., & Anh, T.T. (2021). Enhancing risk management culture for sustainable growth of Asia commercial bank -ACB in Vietnam under mixed effects of macro factors, *Entrepreneurship and Sustainability Issues*, 8(3).
- Hang, T.T.B., Nhung, D.T.H., Hung, N.M., Huy, D.T.N., Dat, P.M. (2020). Where Beta is going—case of Viet Nam hotel, airlines and tourism company groups after the low inflation period. *Entrepreneurship and Sustainability Issues*, 7(3).
- Huy, D.T.N. (2015). The Critical Analysis of Limited South Asian Corporate Governance Standards After Financial Crisis. *International Journal for Quality Research*, 9(4), 741-764.
- Huy, D.T.N. (2012). Estimating Beta of Viet Nam listed construction companies groups during the crisis. *Journal of Integration and Development*, 15(1), 57-71
- Huy, D.T.N., Loan, B.T., & Anh, P.T. (2020). Impact of selected factors on stock price: a case study of Vietcombank in Vietnam. *Entrepreneurship and Sustainability Issues*, 7(4), 2715-2730. [https://doi.org/10.9770/jesi.2020.7.4\(10\)](https://doi.org/10.9770/jesi.2020.7.4(10))
- Huy, D.T.N., Dat, P. M., & Anh, P.T. (2020). Building and econometric model of selected factors' impact on stock price: a case study. *Journal of Security and Sustainability Issues*, 9(M), 77-93.
- Huy D.T.N., Nhan V.K., Bich N.T.N., Hong N.T.P., Chung N.T., & Huy P.Q. (2021). Impacts of Internal and External Macroeconomic Factors on Firm Stock Price in an Expansion Econometric

model—A Case in Vietnam Real Estate Industry. *Data Science for Financial Econometrics-Studies in Computational Intelligence*, 898. http://doi-org-443.webvpn.fjmu.edu.cn/10.1007/978-3-030-48853-6_14

Krishna, R.C. (2015). Macroeconomic Variables impact on Stock Prices in a BRIC Stock Markets: An Empirical Analysis. *Journal of Stock & Forex Trading*, 4(2).

Kulathunga, K. (2015). Macroeconomic Factors and Stock Market Development: With Special Reference to Colombo Stock Exchange. *International Journal of Scientific and Research Publications*, 5(8), 1-7.

Ihsan, H., Ahmad, E., Muhamad, I.H., & Sadia, H. (2015). *International Journal of Scientific and Research Publications*, 5(8).

Jarrah, M.T., & Salim, N. (2016). The impact of macroeconomic factors on Saudi stock market (Tadawul) Prices. *In Int'l Conf. on Advances in Big Data Analytics*.

Luthra, M., & Mahajan, S. (2014). Impact of Macro factors on BSE Bankex. *International Journal of Current Research and Academic Review*, 2(2), 179-186.

Ndlovu, M., Faisal, F., Nil, G.R., & Tursoy, T. (2018). The Impact of Macroeconomic Variables on Stock Returns: A Case of the Johannesburg Stock Exchange. *Romanian Statistical Review*, 2, 88-104.

Pan, Q., & Pan, M. (2014). The Impact of Macro Factors on the Profitability of China's Commercial Banks in the Decade after WTO Accession. *Open Journal of Social Sciences*, 2(9), 64-69.

Quy, V.T., & Loi, D.T.N. (2016). Macroeconomic factors and Stock Price – A Case of Real Estate Stocks on Ho Chi Minh Stock Exchange. *Journal of Science Ho Chi Minh City Open University*, 2(18), 63-75.

Saeed, S., & Akhter, N. (2012). Impact of Macroeconomic Factors on Banking Index in Pakistan. *Interdisciplinary Journal of Contemporary Research in Business*, 4(6), 1200-1218.

<https://www.sbv.gov.vn>

<https://nif.mof.gov.vn>